WHAT IS CLAIMED IS:

Sub A1

1. A testing method which is used to perform a test of an information notification service function of a switching apparatus which can provide the information notification service in compliance with a predetermined information notification service specification, said testing method comprising a step of performing an information notification service function between a testing apparatus which can emulate a plurality of types of information reception terminals for different information notification service specifications and the switching apparatus which can connect a subscriber side two-wire in a subscriber line circuit in said switching apparatus to said testing apparatus.

2. A testing apparatus which is used to perform a test of an information notification service function of a switching apparatus which can provide the information notification service in compliance with a predetermined information notification service specification, said testing apparatus comprising:

a hardware block which can send and receive controls signals and information data using a voice band signal, which are in compliance with different information notification service specifications, by means of connecting said hardware block to a subscriber side two-wire in a subscriber

line circuit in said switching apparatus; and

a control block which controls said hardware block using a software can change a controlling operation by means of replacing said software according to the information notification service specification to be tested.

3. The testing apparatus as claimed in claim 2, wherein said hardware block is constructed by a programmable device, and said control block can change said controlling operation by means of downloading said software.

4. The testing apparatus as claimed in claim 2, wherein said control block change said controlling operation according to an information on a station data information in said switching apparatus or a test-mode instruction sent from said switching apparatus.

5. A testing method which is used to perform a test of an information notification service function of a switching apparatus which can provide the information notification service in compliance with a predetermined information notification service specification, using a termination resistor with a high resistance connected to a test line in a subscriber line

circuit, a testing apparatus connected to a call line of a switching apparatus to send and receive test data using a voice band signal and said switching apparatus, said call line of which is connected to said testing apparatus, said method comprising steps of:

sending an analog signal corresponding to test data from said testing apparatus to said termination resistor through said call line of said switching apparatus;

reflecting said analog signal using said resistor;

receiving a reflected analog signal by said termination resistor by means of said testing apparatus through said call line of said switching apparatus; and

analyzing received data corresponding to said reflected analog signal.

6. The testing method as claimed in claim 5, wherein said switching apparatus can connect said test line to said testing apparatus, and said termination resistor is provided in said testing apparatus.

7. The testing method as claimed in claim 5, wherein said testing method further comprising a step of encoding said test data using an FSK signal or a DTMF signal.

8. A testing method which is used to perform a test of an information notification service function of a switching apparatus which can provide the information notification service in compliance with a predetermined information notification service specification, said method comprising steps of;

translating a dialed number from a subscriber by means of said switching apparatus when ringed;

capturing said dialed number when a translated number by said translating step is equal to a predetermined number; and,

notifying said dialed number to said subscriber.

9. A testing method which is used to perform a test of an information notification service function of a switching apparatus which can provide the information notification service in compliance with a predetermined information notification service specification, using a switching apparatus which can connect a test line from a subscriber line circuit to a reception terminal for a test, said method comprising steps of:

calling from one subscriber terminal to another subscriber terminal connected to said subscriber line circuit to be tested; and,

displaying an information on said subscriber terminal that called in said calling step on said reception terminal for said test.

10. The testing method as claimed in claim 9, further comprising the steps of;

translating a dialed number from said subscriber by means of said switching apparatus when ringed;

capturing said dialed number when a translated number by said translating step is equal to a predetermined number; and,

notifying said dialed number to said subscriber.

11. An FSK signal demodulation method comprising:

a zero crossing point calculation step;

a zero crossing point interval calculation step;

a mark/space transition point calculation step;

a bit point calculation step which decides a bit point based on a mark/space transition point calculated by said mark/space transition point calculation step; and

a bit decision step which decides a bit value based on said bit point calculated by said bit point calculation step.

12. The FSK signal demodulation method as

claimed in claim 11, wherein said bit point calculation step decides said bit point value during an interval excluding predetermined interval between a predetermined point before said mark/space transition point and another predetermined point after said mark/space transition point.

13. An FSK signal demodulator comprising:

a zero crossing point calculation unit;

a zero crossing point interval calculation unit;

a mark/space transition point calculation unit;

a bit point calculation unit which decides a bit point based on a mark/space transition point calculated by said mark/space transition point calculation unit; and

a bit decision unit which decides a bit value based on said bit point calculated by said bit point calculation step.

14. The FSK signal demodulator as claimed in claim 13, wherein said bit point calculation unit decides said bit point value during an interval excluding predetermined interval between a predetermined point before said mark/space transition point and another predetermined point after said mark/space transition point.

15. The FSK signal demodulator as claimed in claim 13, further comprising:

an A/D converter which converts an input FSK signal to a digital FSK signal when said input FSK signal is an analog FSK signal; and

a switch which selects either an output of said A/D converter or an input digital FSK signal, and supplies a selected digital FSK signal to said zero crossing point calculation unit.

16. The FSK signal demodulator as claimed in claim 14, further comprising:

an A/D converter which converts an input analog FSK signal to a digital FSK signal when said input FSK signal is an analog FSK signal; and

a switch which selects either an output of said A/D converter or an input digital FSK signal, and supplies a selected digital FSK signal to said zero crossing point calculation step.

17. A testing apparatus which is used to perform a test of an information notification service function of a switching apparatus which can provide the information notification service in compliance with a predetermined information notification service specification, said testing apparatus comprising:

an FSK signal demodulator which comprises;

a zero crossing point calculation unit;

a zero crossing point interval calculation

unit;

a mark/space transition point calculation unit;

a bit point calculation unit which decides a bit point based on a mark/space transition point calculated by said mark/space transition point calculation unit; and

a bit decision unit which decides a bit value based on said bit point calculated by said bit point calculation unit.

18. The testing apparatus, as claimed in claim 17, wherein said bit point calculation unit decides said bit point value during an interval excluding predetermined interval between a predetermined point before said mark/space transition point and another predetermined point after said mark/space transition point.

19. The testing apparatus as claimed in claim 17, further comprising:

an A/D converter which converts an input FSK signal to a digital FSK signal when said input FSK signal is an analog FSK signal; and

a switch which selects either an output of said A/D converter or an input digital FSK signal, and supplies a selected digital FSK signal to said zero crossing point calculation unit.